QuickTime™ and a
Photo - JPEG decompressor
are needed to see this picture.

DMSO
Industry Day
5/23/97

SYNTHETIC THEATER OF WAR
(STOW) ACTD
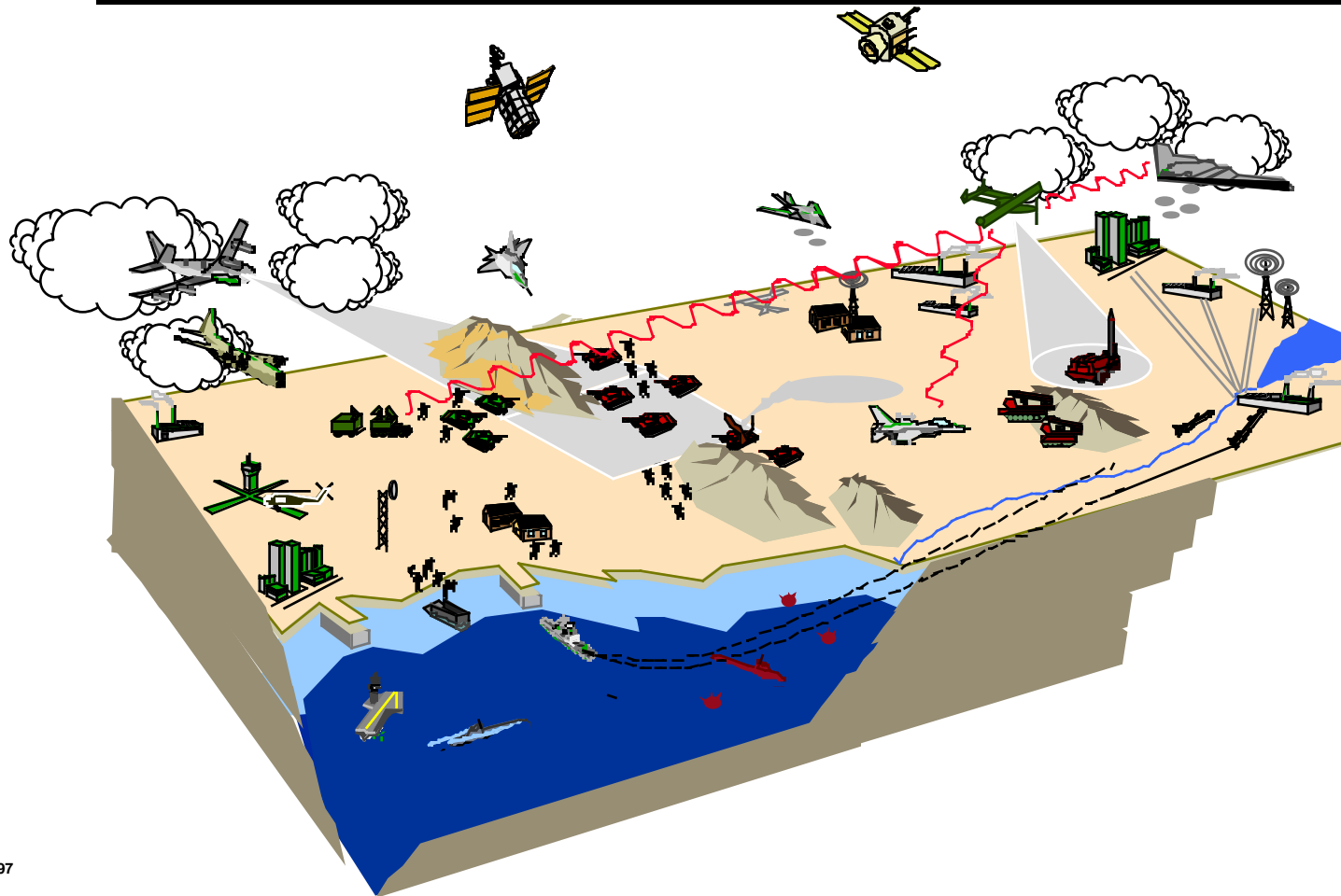
Larry D. Budge
Assistant Director, Simulation

Synthetic Theater of War (STOW) ACTD

Goal Demonstrate the capabilities of high-resolution (platform level) simulation applied to Joint Command and Staff Training and Mission Rehearsal

What is STOW?

Technologies to create a seamless, JOINT SYNTHETIC BATTLESPACE

I N T E G R A T E D

Discrete, Authoritative Models of Forces and Sensors
- Object oriented models of vehicles, aircraft, ships, soldiers, sensors
- C2 behavior is explicitly modeled
- Commands are explicitly communicated among forces and commanders
- Users can "drill down" to the raw data and its pedigree

Realistic, Tactically Significant Environments
- High resolution, 3-dimensional terrain (land, ocean, and surf)
- Effects (e.g. weather, smoke, waves) integrated with forces
- Dynamic Terrain and objects linked to weapons effects models

Composable, Open System Architecture
- HLA compliant system reconfigurable to any scenario
- Can accommodate models of future systems

3-D Visualization
- Consistent, comprehensive view of battlespace allows decision makers to visualize the problem, context, and outcome

Distributed over High Speed Networks (DSI/DISN-LES)
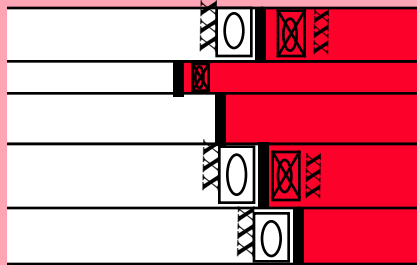- Secure, multi-cast, IP/ATM network

Why STOW?

60s - 70s	80s - 90s	21st Century
Attrition Warfare	**Maneuver Warfare**	***Revolution in Military Affairs***

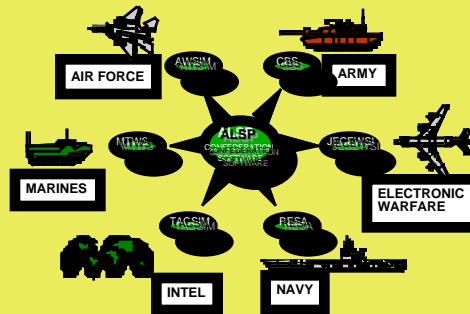|		
$f_{(force)}$	$f_{(force, space)}$	$f_{(force, space, information)}$

60s - 70s
- Cold War scenario
- Large scale, coalition forces
- Soviet TSO
- Nuclear weapons
- Simulation focus: Attrition models
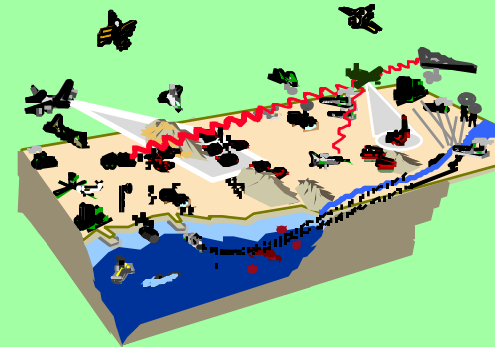- Solution:

Attrition Based Simulations

80s - 90s
- Transition period
- Moving toward non-linear warfare
- Emphasis on joint operations
- Simulation focus: Attrition models
- Solution:

Joint Interoperable Simulations

21st Century
- Non-linear warfare / OOTW
- Precision weapons, smaller forces, C3I, maneuver
- Emphasis on joint and coalition operations
- Simulation focus: high resolution, fully interoperable model which mirrors C3I
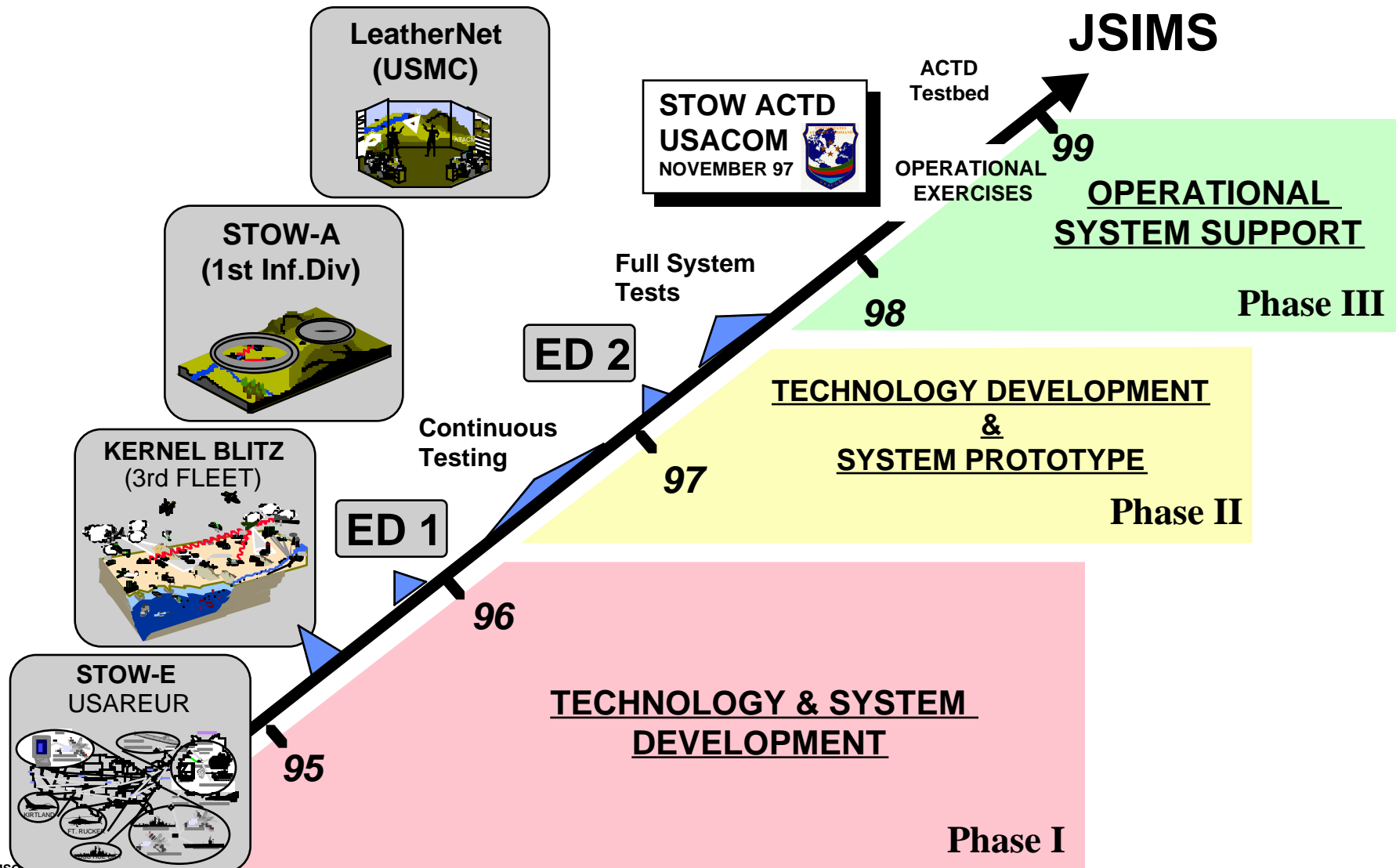- Solution:

Synthetic Battlespace

STOW Technology Components

- **Pre-exercise tools**
  - SAT/IAT
  - Exercise Initialization
  - Synthetic Environment database development processes and tools

- **Exercise tools**
  - Synthetic Force (SF) simulations, including Command Forces (CFOR)
  - Synthetic Environment (SE) simulations
  - C4I Linkages
  - Distributed Exercise Management (DEM) tools
  - Data Collection/Common Data Infrastructure tools
  - Network Technologies

- **Post-exercise tools**
  - After-Action Review tools

STOW ACTD Phases

JSIMS

LeatherNet
(USMC)

STOW ACTD
USACOM
NOVEMBER 97

ACTD
Testbed

STOW-A
(1st Inf.Div)

99

OPERATIONAL
EXERCISES

**OPERATIONAL
SYSTEM SUPPORT**

Full System
Tests

Phase III

98

ED 2

KERNEL BLITZ
(3rd FLEET)

Continuous
Testing

**TECHNOLOGY DEVELOPMENT
&
SYSTEM PROTOTYPE**

97

ED 1

Phase II

96

STOW-E
USAREUR

**TECHNOLOGY & SYSTEM
DEVELOPMENT**

95

Phase I

6 - DMSO

STOW Demo Construct

Technology

- HLA compliant
- JointSAF
- CFOR(Command Forces)
- Terrain Data Base
- Environmental effects
- C4I Interfaces
- Exercise generation
- After Action Review
- ATM multicast network
- Distributed sites

Iraq

Kuwait

Missions

- Amphibious Operations
- Anti Mine Operations
- Theater Missile Defense
- Special Operations
- Ground Component
- Air Operations
- Intelligence

Forces

UK Forces	Air Force Composite Wing	Navy Carrier Battlegroup - Amphib Read Group - Countermine Aux	Marine Expeditionary Unit	Army Heavy Brigade	OPFOR